

REMARKS

Reconsideration of the above mentioned application is hereby requested in view of the remarks which follow.

Claims 1-20 stand rejected under 35 U.S.C 103(a) as being unpatentable over Kawase et al. in view of Japanese patent 3-221423. Applicants have provided a courtesy copy of the translation of the substantive portions of Japanese 3-221423 and refer to the same herein.

The Examiner indicates that Kawase et al. discloses in Figure 7 injection molding a plurality of plastic parts around a core 42. The Examiner has misinterpreted Figure 7.

In fact, what Figure 7 shows is an electrical connector of the type having a plastic housing with a plurality of contacts 42 positioned therein, see column 1 lines 50-63. While the specification of Kawase et al. does relate to molding machines, see for example Figures 9-74 there is nothing similar to that shown and described in applicants embodiments, nor as claimed is Applicants claims 1-20.

Japanese 3-221423 adds nothing to Kawase et al., as the Japanese patent shows support pins 15-15 to support the center mold during the injection of the molding material (see Figures 1-3 and the last paragraph on page 4 of the translation spanning to page 5). Thus, as shown in the Japanese application, prior to the insertion of the molding material which will form the curved pipe 1, the pins 15-15 are positioned internally against the internal mold as shown best in Figure 2. Once the molten material is injected into the cavity, the pins are retracted as shown in Figure 3 and the molten material fills the voids from the retracted pins (see the fourth full paragraph on page 5).

Thus, while both of the references suggest molding, nothing individually or in combination suggests the combination claimed by applicants.

Applicants have claimed a molding apparatus for molding plastic components where the apparatus is a plurality of cavities for receiving the material to be molded. Retractable core pins enter the cavity from opposite sides thereof and at least of one of the retractable core pins has an engagement member for engaging a core pin in an adjacent cavity to rigidify the pins during the molding process. Thus, nothing in Kawase or in the Japanese patent show engagement members on retractable core pins to engage a core pin in an adjacent cavity to rigidify the pins during the molding process. Thus, nothing could possibly be suggested by the combination of those two references.

The same holds true for claims 12-20, as claim 12 relates to a molding apparatus for molding plastic components where the molding apparatus has a cavity for receiving the material to be molded and retractable core pins entering the cavity from opposite sides thereof. The retractable core pins have interlocking members thereon for locking with each other to rigidify the pins during the molding process. Once again, while Kawase shows a molding apparatus, nothing in Kawase or in the Japanese reference show interlocking the core pins to each other to rigidify the pins during the molding process.

Finally, claim 21 relates to a method of molding a plastic article having apertures therethrough where the method comprises the steps of providing a plurality of molding cavities each having a first end and a second end; providing first and second core pins through respective first and second ends of the cavities; supporting a support member which supports adjacent core pins in the adjacent cavities, and inserting molten material into the cavities and withdrawing

the core pins. Again, this method is neither taught nor suggested by the combination of Kawase and the Japanese reference.

Thus, applicants have provided both the method and apparatus for improving the molding capabilities for molding machines such as those for molding cavities in housings of electrical connectors where the adjacent and corresponding core pins are both supported and held rigidified during the molding process. As mentioned in the application, as connector housings and their associated terminals become smaller and smaller, the dimensional tolerances get tighter and tighter. One of the difficulties in holding the tolerances has been the deflection of the corresponding retractable core pins during the molding process. Due to the deflection, the tolerances of the apertures cannot be held because the deflection causes the apertures created by the core pins to be larger than the core pins themselves. Thus, applicants have devised the following embodiments to produce consistent and improved results in molding.


Thus, applicants believe that claims 1-22 as filed originally are patentably distinct from a combination of Kawase and Japanese patent 3-221423.

Respectfully submitted,

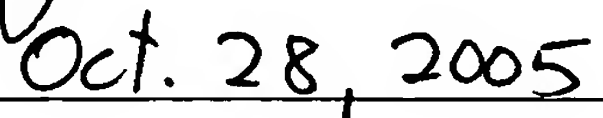


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